

### **REMARKS**

The invention is directed to a multi-component thermoplastic molding composition useful for making articles having improved mechanical properties. At its broadest the composition includes:

- (A) poly(ester)carbonate
- (B) a graft polymer, such as ABS,
- (C) a vinyl copolymer (styrene/acrylonitrile is an example)
- (D) a specific mixture of certain phosphorous compounds (a known flame retardant), and
- (E) fluorinated polyolefin.

Presently relevant is component (B) which is required to include a "graft base" in the form of particles having an average size of 0.20 to 0.35 microns. The invention resides in the finding that the mechanical properties of the composition critically depend on this particle size.

Claims 1-6, 8-10, 14,15,17 and 18 stand rejected under 35 U.S.C. 102(e) as anticipated by Eckel et al ( U.S. Patent 5,672,645).

Eckel disclosed a molding composition containing components that are substantively similar to the ones presently claimed. Key exception is the graft polymer – Eckel's component C- the "backbone" of which (corresponding the present "graft base") has a preferred particle size ( $d_{50}$ ) in the range of 0.1 to 0.6 microns.

In rejecting the claims the Examiner contends that "one common point in a range results in anticipation". Applicants respectfully disagree.

The relevant section of the Manual of Patent Examining Procedure (MPEP 2131.02) states that "A genus does not always anticipate a claim to a species within the genus". This statement clearly militates against the Examiner's contention relative to the anticipatory effect of common points. Among the exceptions the MPEP notes the instance where the species is "clearly named" and instances of overlap. In the present case the Eckel document disclosed 0.1 to 0.6 microns, a broad range of fifty tenths of microns (Units). This disclosure does not "clearly name" the range recited in Claim 1, namely 0.20 to 0.35 microns.

In the instances that the prior art discloses a range that overlaps the claimed range, yet includes no specific examples falling within the claimed range, the MPEP, requires a case by case determination. Accordingly, for the reference to anticipate it

must disclose the subject matter “with sufficient specificity”. “Sufficient specificity” considers whether “the claims are directed to a narrow range, the reference teaches a broad range, and there is evidence of unexpected results within the claimed narrow range”. Depending on other facts of the case the Manual states that “it may be reasonable to conclude that the narrow range is not disclosed with sufficient specificity to constitute an anticipation of the claims.”

In the present case the Eckel document disclosed 0.1 to 0.6 microns, a broad range of fifty tenths of microns (Units). This disclosure does not name the claimed range that extends over 15 Units in Claim 1, much less the range of 5 Units that is recited in Claim 3. Evidence of unexpected results within the claimed narrow range has been presented in the course of prosecution (Eckel Declaration).

In the absence of “other facts of the case” Applicants respectfully submit that the record demonstrates that Eckel falls short of the requisite “sufficient specificity” and respectfully urge that the rejection of the several claims as anticipated by Eckel be reconsidered and withdrawn.

In maintaining the rejection the Examiner asserts that the evidence presented in the Eckel Declaration has no probative value because the “tensile modulus of elasticity increases by a scant 4.8%, the improvement in tensile strength (4.0%) is even less” and that the significant improvement in the elongation at break is a property not mentioned in the specification. The Examiner cites the case of *In Re Davies* 177 USPQ 381.

Applicants take exception to the belittling of the demonstrated improvements. There is no basis in the record for viewing the 4.8% improvement in tensile modulus as “scant” nor is there reason for discounting the 4% improvement in tensile strength. Moreover, the cited *Davies* is respectfully asserted to have no bearing on the present issue.

*Davies* relates to a later-presented affidavit that showed unexpected improved mechanical properties **together** with improved gloss, transparency, and processability. The specification made no reference to achievement of **improved** mechanical properties and improved gloss, etc. The *Davies* case is not seen to be instructive in the present context at least because the present specification disclosed improved “mechanical properties” – page 1 lines 3-4 and line 29 – embracing all of the parameters at issue.

The rejection alleging anticipation is requested to be reconsidered and withdrawn.

Claims 1-6, 8-10 and 14-18 stand rejected under 35 U.S.C. 103(a) as unpatentable over Eckel in view of Bodinger et al. (U.S. Patent 5,849,827).

Eckel has been discussed above. Bodinger disclosed a composition containing polycarbonate, an optional rubber containing graft copolymers and a flame retardant. Presently relevant is the particle size of the Bodinger's graft base that is in the range of 0.05 to 2  $\mu\text{m}$ . Bodinger is not therefore seen as augmenting Eckel's disclosure in any presently meaningful way.

The several documents purportedly supporting the proposition that "elongation improves with decreasing particle size" have been reviewed. As is noted below these documents have no present relevance.

Morikawa et al U.S. Patent 5,397,533 disclosed a  $\text{TiB}_2$ -dispersed TiAl-based composite material.

Wang et al (U.S. patent 5,994,480) relates to a composite system that consists of thermosetting resin and a thermoplastic resin.

Asano et al (U.S. Patent 6,013,700) disclosed a granular powder of modified polytetrafluoroethylene.

Hughes et al, U.S. SIR H1341 is seen as disclosing a high energy propellant formulation.

These documents relate to material systems that have little to do with the present system. The Applicants respectfully submit that projection respecting the properties of one material system cannot be reliably based on a dissimilar system. In this connection the Applicants call attention to Table VI of the Hughes document where the modulus of the referenced system decreases with decreased size, a performance that is in stark conflict with the corresponding trend demonstrated in the Eckel Declaration. In the material system exemplified by Eckel the tensile modulus of elasticity increases with decreasing particle size.

Reconsideration and withdrawal of the rejection alleging obviousness over Eckel in view of Bodinger are requested.

Believing the above represents a complete response to the Office Action and that the application is in condition for allowance, Applicants request the earliest issuance of an indication to this effect.

Respectfully submitted,

By



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